patients discontinued treatment in the adjuvant part, one at third cycle for prolonged grade 4 thrombocytopenia, and one after fifth cycle for prolonged grade 2 thrombocytopenia.
Conclusions: A prolonged maintenance TMZ chemotherapy doesn't impact negatively on toxicity profile.

2519 POSTER

A prospective study of cognition, mood and quality of life in patients receiving parasellar radiotherapy

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Background: Pituitary adenomas, craniopharyngiomas and parasellar meningiomas are located adjacent to the mesial temporal lobes, orbital frontal lobes and the hypothalamus, which are areas important for the control of mood and cognitive functions such as problem solving, memory, attention, concentration and verbal expression. To date, no prospective studies have explored the cognitive and quality of life sequelae of radiotherapy primarily limited to the parasellar region.
Materials and Methods: 30 adult patients who were planned to receive fractionated stereotactic radiotherapy for the treatment of parasellar tumors were recruited from the Vancouver Cancer Centre between November 2001 and September 2003. Patients participated in serial neurobehavioural assessments on three occasions, within the week prior to radiotherapy, six months following the completion of radiotherapy and one year following the completion of radiotherapy. Assessments included self-reported measure of mood states; self-reported measures of quality of life (EORTC QLQ-C30 and the associated brain tumour module BCM 20); caregiver ratings of behaviour and activities of daily living and standardized clinical neuropsychological measures (attention/concentration, psychomotor speed, executive function and memory). A further assessment 3 years post treatment is currently underway.
Results: 29 patients were available for analysis. There were no significant differences in cognitive function, mood or quality of life at 6 months or 1 year compared to baseline testing ($p > 0.01$). Results will be available for the 3 year assessment when this is completed in May 2007.
Conclusion: This prospective study has demonstrated that fractionated stereotactic radiotherapy to tumours in the parasellar region does not result in any serious decline in cognition function, mood or quality of life within the first year post treatment.

2520 POSTER

Oral Temozolamide concurrent with radical radiotherapy for patients with glioblastoma multiforme: The University Hospitals of Leicester Experience

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Purpose: To monitor outcome amongst patients with glioblastoma multiforme (GBM) receiving radiotherapy (RT) with concurrent Temozolamide and compare the results with data from published randomized control trial (by Stupp et al).
Materials and Methods: The results of the randomized controlled trial by Stupp et al presented at ASCO in 2004 and published in 2005 showed that patients with GBM treated with RT and concurrent and adjuvant Temozolamide have a better survival than those treated with RT alone. Due to lack of funding in our centre, we treated these patients with RT (60 Gy in 30 fractions over 6 weeks) and concurrent Temozolamide only (75 mg/m^2 daily for 42 days). A retrospective audit was carried out to monitor the outcome of patients with GBM treated in our centre with this regimen until June 2006. Data was collected from patient case notes, chemotherapy and radiotherapy prescriptions and computer database in our centre. Statistical analysis was carried out using SPSS package.
Results: 35 patients were identified (25 males, 10 females). Mean age was 58 years. 72% underwent craniotomy and debulking, whereas 29% had biopsy only. 33 patients received concurrent chemoradiation, of whom 27 patients (82%) completed the treatment. Significant toxicity due to chemotherapy was reported in only 15% of cases (mostly haematological) with one patient requiring dose reduction and 3 patients discontinuing the treatment. 70% of patients showed symptomatic improvement at six weeks following treatment. Although the mean time to progression was 4.3 months, the median survival was 9.5 months and 27% of patients were still alive at 20 months following diagnosis.
Conclusion: Even outside of clinical trials, the addition of Temozolamide concurrently to radiotherapy seems to be well tolerated with good compliance and acceptable toxicity similar to published data. Furthermore, long term survival can be achieved in a significant proportion of cases.
For patients with GBM radiotherapy with concurrent Temozolamide only appears to be a feasible and promising option with long term outcome comparable to published data and warrants further evaluation within clinical trials
However due to small sample size, the results need to be interpreted with caution.

2521 POSTER

Quality Assurance in the EORTC Low Grade Glioma Trial 22033–26033: the dummy run

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Purpose: To early detect deviations of radiotherapy (RT) in the ongoing EORTC22033–26033 trial on primary temozolomide (TMZ) vs RT in low grade gliomas after stratification for genetic 1p loss.
Materials and Methods: Performance of the dummy run (DR) is required once the first patients are randomized. A case of incomplete resected left frontal astrocytoma WHO II was proposed. DICOM-datasets (pre-, post-surgery MRI scans; planning CT-scan in treatment position) were made available online. DR consists of two parts: (1) Definition of the tumour, clinical and planning volume. Volumes were 3D reconstructed and evaluated; (2) After acceptance centres performed the RT plan. Target volumes were defined by 5 experts from 5 countries. Dmax to the organ at risk (OAR) should not exceed 10 Gy for retina and lens, 55 Gy for optic chiasm, optic nerves and the brainstem. Normal brain should receive less than 60% of dose. We analysed: target volumes, plan characteristics, PTV coverage, conformity index (CI)=PTV95%/PTV, PTV inhomogeneity (U) and Dmax to OAR by using DVH and isodose chart.
Results: 22 centres entered 77% of currently randomised patients and have finished most parts of the DR. We report on 20 case solution plans. Investigators volumes (size and anatomy) were compared against expert volumes. Two centres were requested to repeat GTV-PTV delineations due to major deviations. The majority of OAR were systematically contoured except the internal ear, lens, lacrimal gland and normal brain. All plans were 3D-conformal, used a commercial treatment planning system and isocentric technique according to ICRU50−62. For 5 plans dose was not prescribed at isocenter and not reported at the axe intersection in another 5 plans. Tissue heterogeneity corrections were not applied in 2 institutions. The majority used a 4(2−5) field set-up. Hot spots ranged:102%-109%. Conformity was good with CImean = 0.99(0.95−1) and Umean = 6%(4%-11%). Two sites had a major deviation in dose homogeneity and another two had a significant PTV under-dosage. Dmean to the normal brain was 18.6 Gy (12.5−28.4 Gy).
Conclusion: The majority of the centres planned RT in compliance with protocol requirements. Two centres needed to restart PTV delineation and a majority needed to add specific OAR. The advantage of DR at the beginning of trial is to give recommendations. The learning effect is expected to improve consistency between centres, improve radiation planning and volume definition and as such the reliability of the trial results.

2522 POSTER

Adult medulloblastoma: McGill experience

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Background: Medulloblastoma comprises about 15% of childhood neurologic malignancies but only accounts for 1−3% of such tumors in adults. Given that adult medulloblastoma is rare and an internationally recognized standard of care does not exist, we decided to review the demographics, management and survival data of patients treated and followed at the McGill University teaching hospitals over the past 18 years.
Methods: Medical records were investigated to identify eligible patients diagnosed with medulloblastoma over the age of 18. Retrospective clinical chart review was undertaken to gather data on patient demographics, presenting symptoms, tumor characteristics, treatment modalities and morbidity, relapse and survival.

Results: Data are available on 30 patients (12 female, 18 male; median age 28 years; range 17−48 years) treated and followed between January 1989 and February 2007. Three patients referred from outside institutions solely for the treatment of relapses were excluded from the survival analysis. Headache was the most common presenting symptom (76%) followed by nausea, vomiting, ataxia and gait disturbances (48%). Median symptom duration was 2 months. Seventy-four percent of lesions arose from the cerebellar hemispheres. Twenty-six patients were assigned to poor (46%) or standard (54%) risk categories. Of the twenty-seven patients treated and followed exclusively at McGill, twenty-five (93%) underwent surgical resection followed by craniospinal radiotherapy. The median time delay between surgery and initiation of radiotherapy was 35 days (range 11−75 days). Twelve (44%) patients were prescribed adjuvant chemotherapy using the CCG 921, POG 9031 or MOPP protocols. Five patients received vincristine concurrent with radiotherapy. The most frequently reported treatment-related adverse effects were myelotoxicity, ototoxicity and neuropathy. Twelve patients relapsed, most frequently in the posterior fossa (58%). Median time to relapse was 3.3 years (range 0.3−7.9 years). Median survival was 7.5 years. By February 2007, 10 patients were deceased. No treatment related deaths were reported.
Conclusion: Adult medulloblastoma is a rare disease for which the optimal management has yet to be defined. At McGill, pediatric chemotherapy protocols have been used to treat these patients and our overall survival data are comparable with pediatric data. By comparing our experience with that of other institutions we hope to improve the care provided to patients presenting with adult medulloblastoma.

2523 POSTER

Concomitant chemo radiation (CRT) in high-risk primitive CNS embryonal tumours (PCET): a prospective pilot study at Tata Memorial Hospital (TMH)

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Objective: The outcome of high risk PCET is dismal and novel approaches are urgently required. We present our preliminary observation of safety and feasibility of concomitant CRT in these patients.
Methods: Treatment naive patients with confirmed diagnoses of high risk PCET, >3 yrs & <22 yrs were prospectively accrued on this phase II study at TMH since July 2004. All patients underwent surgery followed by CRT within 6 wks of surgery The CRT includes craniospinal radiation (35 Gy/21#) with local tumour bed boost 19.8 Gy/11# along with carboplatin 35 mg/m^2/day given 5 days a week for 15 doses (during first 3 wks.). This was followed by 6 cycles of maintenance chemotherapy at 4 weekly interval beginning 4 to 6 wks post CRT using Vincristine, Carboplatin and Cyclophosphamide.
Results: A total of 17 patients have completed the CRT. Median age was 9 years (range 3−19 years), M:F ratio of 2:1 Medulloblastoma was seen in 59% and supratentorial PNET in 41%; M Stage M0 (53%), M1 (6%), M2 (6%), M3 (35%). All patients completed CRT as per schedule except interruption for 1 week in one patient due to facial cellulitis and another due to Malaria. In hematological toxicity 82% developed anemia, 94% developed neutropenia & 82% developed thrombocytopenia. Severe (Grade III/IV) anemia was observed in 19%, neutropenia in 62% and thrombocytopenia in 25% patients. In non hematological toxicity 94% patients had anorexia, 100% had nausea/ vomiting, 75% developed mucositis, 88% had radiation dermatitis and 94% had alopecia. Severe nonhematological toxicity included anorexia in 6%. A total of 62% patients required GCSF for > grade II neutropenia. Only 3 (20%) patients required RBC transfusion and one needed platelet support. None of the patients died of treatment related toxicity. At the end of CRT, 67% have achieved complete remission, 20% have good partial remission and remaining 13% have stable disease.
Conclusion: Concomitant CRT in PCET is feasible, safe, with manageable toxicities and can be given on out patient basis. We need to evaluate whether the promising early response translates in to long term benefit.

2524 POSTER

A treatment results comparison of: whole brain radiation therapy (WBRT), radiosurgery (SRS) and combination both method WBRT + SRS used for patients suffering from brain metastases

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Purpose: An evaluation of overall survival time (OST) of patients with brain metastases after 3 modalities treatment: whole brain radiotherapy – WBRT, radiosurgery – SRS and combination of both – WBRT + SRS and an assessment of some prognostic factors.
Materials and Methods: 200 patients (132 men and 68 women, age 31−74) suffering from brain metastases, treated with WBRT, SRS or WBRT + SRS between April 1998 and April 2004. 82 patients had solitary cerebral metastasis (subgroup 1), 70 patients – 2 to 3 metastases (subgroup 2) and 48 patients – 3 or more metastases (subgroup 3). In subgroup 1, 28 patients underwent WBRT, 41 patients SRS and 13 – WBRT + SRS. In subgroup 2, 28 – WBRT, 29 – SRS and 13 – WBRT + SRS. In subgroup 3, 48 patients had only WBRT.
The volume of solitary lesion was within the range from 0.5 cm^3 to 90 cm^3. SRS was performed using linear accelelator (dose ranged from 12 to 20 Gy) and WBRT was performed delivering five 4 Gy fractions. Median survivals were estimated using Weibull regression and Cox model.
Results: With the combination of the two methods – WBRT and SRS for subgroups 1 and 2 doubled OST was obtained in comparison to application one of these methods alone ($p = 0.003$). The influence of number metastases (1 vs more) on overall survival was confirmed ($p = 0.03$). The increase of tumor volume about 1 cm^3 enhanced failure risk of 1.2% (SD 0.54%). For solitary brain metastasis in capacity of $\leqslant$1 cm^3 and $\geqslant$10 cm^3 the statistically significant difference was obtained ($p = 0.05$). Survival of patients in subgroups 1 and 3 (aged <60 and $\geqslant$60) was statistically significant ($p = 0.02$).
Conclusion: The combination of both methods, WBRT + SRS, gives better results (survival) than these methods applied individually. The most important prognostic factors influence on OST of patients with brain metastases are: number and volume of metastases and age of patients.

Gastrointestinal Malignancies

Oral presentations (Tue, 25 Sep, 09.00−11.15)

Gastrointestinal malignancies – colorectal cancer (1)

3000 ORAL

Randomised phase III study of capecitabine, oxaliplatin and bevacizumab (CAPOX-B) with or without cetuximab in advanced colorectal cancer (ACC), the CAIRO2 study of the Dutch Colorectal Cancer Group (DCCG). An interim safety analysis

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Background: Cetuximab, a chimaeric Moab against the EGFR, has shown efficacy in ACC. However, no data are available on its combination with chemotherapy and bevacizumab (B) in 1st line. Recently a study with panitumumab, a human anti-EGFR, in combination with chemotherapy plus B was discontinued due to toxicity and decreased survival. We here present an interim safety analysis on a phase III study evaluating the efficacy of adding cetuximab to CAPOX-B.
Methods: 755 previously untreated ACC patients (pts) were randomised between CAPOX-B (arm A) and CAPOX-B plus cetuximab (arm B) between June 2005 and Dec 2006. Toxicity during the first 9 treatment cycles in the first 400 pts was evaluated.
Results: 381 pts were eligible and evaluable for toxicity (195 pts in arm A and 186 pts in arm B). The overall incidence of grade 3−4 toxicity in arms A and B was 66% and 76%, respectively ($p = 0.12$). Toxicity as the main reason for treatment discontinuation occurred in 65 pts (18%), 30 pts (15%) in arm A and 35 pts (19%) in arm B ($p = 0.70$). Grade 3−4 toxicities in arm A versus B were: hand–foot syndrome 12% vs 13% (grade 2: 14% vs 20%), diarrhoea 16% vs 23%, vomiting 7% vs 6%, febrile neutropenia 1% vs 0%, hypertension 4% vs 2%, cardiovascular events 4% vs 3% (myocardial ischemia 1% vs 2% and cerebrovascular ischemia 1% vs 0%), thromboembolic events 5% vs 7%, allergic reactions 3% vs 6%, and gastrointestinal perforations 2% vs 1%, with none of these differences